



# CD-adapco STAR-CCM+

## CD-adapco and QLogic High Performance Computing

### Overview

Today's challenging economic climate and globally competitive markets make lowering manufacturing costs more critical than ever. Whether you're an aerospace engineer designing a new wing for the latest commercial jet or an automotive engineer simulating multi-car crashes for the next generation of SUVs, the ability to run simulations faster will increase productivity, speed time-to-market, and improve your company's bottom line.

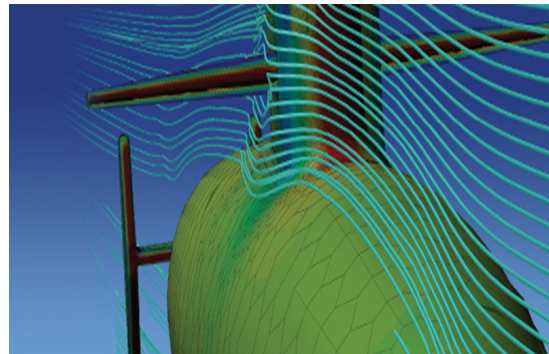
Companies in aerospace, automotive, consumer electronics, and high-tech machinery can realize significant benefits utilizing QLogic high performance computing solutions. QLogic's products enable companies to perform process simulation, modeling, and optimization at a highly increased rate so that customers can get products to market faster at a much lower cost of prototyping and final production.

### CD-adapco

CD-adapco is a leading global CAE enterprise providing a full spectrum of computationally-based engineering solutions. CD-adapco core products are the technology-leading CFD packages, STAR-CD and STAR-CCM+. The scope of CD-adapco's activities extends beyond CFD software development to encompass a wide range of CAE engineering services in CFD and FEA, and the transfer of technology via expert systems.

### STAR-CCM+

From CAD to post-processing, STAR-CCM+ delivers the entire CFD process in a single integrated software environment. This unique approach brings unrivalled ease-of-use and automation to CAD preparation, meshing, model set-up and iterative design studies, enabling your Engineers to deliver better results, faster.



### Solution Highlights

#### Complete Simulations Faster

When running optimization programs that refine a design, reducing the time-to-information is critical for any company in these competitive industries. Interconnecting your cluster computing network using QLogic solutions can reduce this time interval — the end result is faster time-to-market and higher product quality levels.

#### Improve Product Designs

QLogic solutions enable companies to build larger node size clusters, run larger data sets, and expand simulation complexities in computer-aided design.

#### Reduce or Eliminate Costs

By better leveraging cluster compute and storage resources, industrial engineering customers utilizing QLogic's high performance switching and virtual cluster fabric solutions can reduce the costs and complexities of deploying and operating design and simulation data centers.

## CD-adapco STAR-CCM+ CD-adapco and QLogic High Performance Computing

Innovations such as built-in surface-wrapping, advanced automated meshing (creating either polyhedral or predominantly hexahedral volume meshes) and the ability to “copy and paste” components between models have quickly established STAR-CCM+ a reputation for producing high-quality results in a single code with minimum user effort.

From its first release in 2004, STAR-CCM+ has impressed the CFD community with its rapid pace of development. Written “from the ground up” using object-oriented programming and the latest software technology combined with outstanding ease-of-use and accuracy, STAR-CCM+ is an entirely new concept in CFD.

### QLogic – High Performance Cluster Technology

QLogic offers a comprehensive end-to-end product portfolio that includes Multi-Protocol Fabric Directors, Edge Fabric Switches, Host Channel Adapters (HCAs), and a complete software suite to install, operate, and maintain your high performance interconnect fabric. QLogic offers the most comprehensive and flexible interconnect fabric solutions on the market. Application requirements from 12 to 864 InfiniBand ports can be supported in a single chassis. Multi-chassis fabrics that support thousands of host nodes can be constructed to meet the most demanding compute cluster requirements. This offering, combined with the industry's only Fabric Management tools that enable an administrator to install and boot a fabric in minutes, helps to satisfy the growing demand for high-performance computational clusters and grids.

#### High Capacity Multi-Protocol Directors

- 51.8Tb/s throughput in a single chassis
- InfiniBand DDR supported across full switching portfolio
- Support for 20-to-40Gb/s node-to-node
- Single wire support for InfiniBand, Ethernet, and Fibre Channel

#### Comprehensive Fabric Management

- Centralized configuration and fabric initialization
- Accelerated fabric deployment and verification
- Fabric health and performance monitoring
- Fabric-wide diagnostics and maintenance
- Centralized management of virtual fabric services

#### Multi-Protocol Gateways

- Virtual I/O Controller (VIC) functionality
- 10Gb Ethernet and 4Gb Fibre Channel
- Scale I/O and servers independently
- Pool and share I/O between servers

#### Widest Range of Host InfiniBand Adapters

- Widest choice of adapters
- SDR, DDR and QDR capable
- PCIe

#### Compatible Plus Software Stacks

- OpenFabrics / OFED
- Optional value-added capabilities
- Accelerated standard MPI stacks

#### QLogic InfiniBand Benefits

1. Significantly improves application performance for faster time-to-solution
2. Provides fabric and application scaling to 1000s of CPUs
3. Simplifies data center design and reduce operating costs
4. Eliminates the need for separate physical server connections to storage and network resources
5. Scale servers and I/O independently pool and share I/O between servers

#### To Learn More

QLogic: [www.QLogic.com](http://www.QLogic.com) or CD-adapco: [www.CD-adapco.com](http://www.CD-adapco.com)



The Ultimate in Performance

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